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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,968	07/20/2000	Shunpei Yama-zaki	0756-2183	4214

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EXAMINER

HA, NATHAN W

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

09/620,968

**Applicant(s)**

YAMAZAKI, SHUNPEI

**Examiner**

Nathan W. Ha

**Art Unit**

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9/62
- 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group II claims 2-22 is acknowledged.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-3, 5-6, 9-10, 12-13, 16-17, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cunningham et al. (US 3,833,842, hereinafter, Cunningham.)

In regard to claims 2-3, 5-6, 16-17, 19-20, in fig. 12, Cunningham discloses a method of making a semiconductor device comprising steps of:

forming an insulating layer 119 comprising silicon nitride over a semiconductor substrate 70 by sputtering in an atmosphere consisting of nitrogen; see col. 12, lines 5-12.

In regard to claims 9 and 12, Cunningham further discloses the use of Aluminum electrodes, see col. 2, lines 34-38.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7, 11, 14, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham as applied to claims 2-3, 5-6, 16-17, 19-20 above, and further in view of Nomoto et al. (US 5,225,364, hereinafter Nomoto.)

In regard to claims 18 and 21 Cunningham discloses all of the claimed limitations as mentioned above except expressly teaches the device can be used in a matrix display. It is noted that the device of Cunningham in fact can be used in a matrix display device since it is a metallization device. It is used to carry out signal or power connection. However, in order to show the obviousness of this utility, Nomoto is incorporated herein. Nomoto discloses an analogous semiconductor device with substrate 1, silicon nitride insulating layer 5 and an aluminum electrode 8. The matrix has plurality devices that connect in rows and columns. Therefore, it is proper to combine this structure to a metallization structure in order to carry out the intended product, or design choice of a product.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to adapt matrix device as taught by Nomoto in Cunningham's in order to carry out the advantage mentioned above.

Claims 8, 15, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham as mentioned above.

In regard to claims 8, 15 and 22 Cunningham discloses all of the claimed limitations as mentioned above except the ratio volume of Nitrogen and Argon.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the volumes because applicant has not disclosed that these volumes provide an advantage, is used for a particular purpose, or solve a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either ratio~~y~~ because they perform the same function of performing chemical reaction.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Cunningham to obtain the invention as specify in claims 8, 15 and 22.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (703) 305-3507. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha

SC